



Quarterly Update from
the Gerry E. Studds Stellwagen
Bank National Marine Sanctuary



TELLWAGEN BANKNOTES

Winter-
Early
Spring
2003

First Image of Historic Shipwrecks Released on 100th Anniversary of Palmer-Crary Collision

Welcome

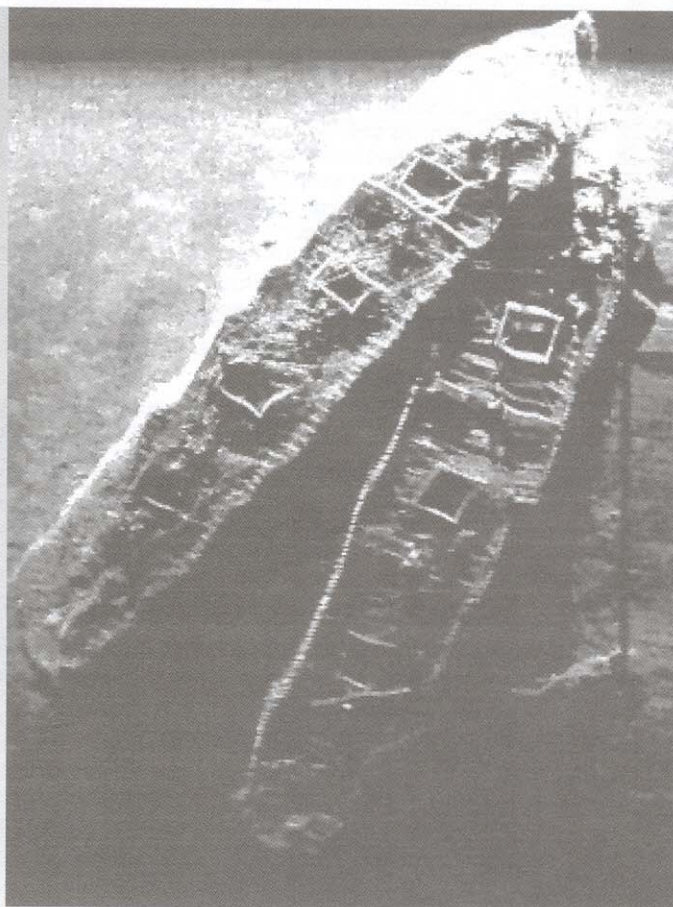
Welcome to the second issue of Stellwagen Banknotes, a quarterly update from the Stellwagen Bank National Marine Sanctuary to inform the public about upcoming events, research progress, and program highlights. We hope you find this publication valuable and timely. If you would like additional copies of the update or our annual newspaper (Stellwagen Soundings), or know of any individuals who would like to be placed on our mailing list, please let us know by contacting us via: phone: 781-545-8026; fax: 781-545-8036; or e-mail: stellwagen@noaa.gov or anne.smrquina@noaa.gov. Your comments or suggestions regarding the contents of this publication are also of interest to us.

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The Sanctuary released the first image of a dramatic 100-year-old maritime tragedy on the anniversary of the collision late last year. Two schooners, the Frank A. Palmer and the Louise B. Crary, were bringing coal to Boston when they collided and sank on December 17, 1902. The newly obtained side scan sonar image clearly shows the hulls of the two large sailing vessels still locked together at their bows. The wrecks are located within the Sanctuary, but coordinates are not being released until an appropriate plan for managing and protecting the wrecks is developed and implemented.

According to the Crary captain's testimony as reported by the Boston Globe and Herald immediately following the accident, a miscalculation on the part of the Crary's first mate, who was at the helm, led to the unfortunate collision during the clear evening, although seas were far from calm. The bow of the Crary plowed into the port side of the Palmer, leaving both vessels fatally damaged. Reports show that the vessels disappeared from view quickly, with some of the Crary's crew unable to abandon the ship before it sank.



The Crary, a five-masted schooner (left), crashed into the four-masted Palmer as they both headed into Boston Harbor with holds filled with coal. Both sank within minutes, locked at their bows. SBNMS/NURC image

Out of the 21 crew members from both schooners, only 15 made it into one of the Palmer's lifeboats. Among this group of survivors from the initial crash, four died from exposure and one committed suicide by jumping overboard. Lack of communica-

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Note from the Sanctuary Superintendent, Dr. Craig MacDonald

As many of you know, the Sanctuary has begun revising its Management Plan. The first phase of the project, public scoping, is completed. The comment period that informs scoping was open during July through October and a total of nine meetings were held in Connecticut, Massachusetts, New Hampshire and Maine. The public identified numerous important matters for Sanctuary management during this process.

Upon review and synthesis, the information was categorized into eight high profile topics comprised of 25 key issues. The topics and issues were derived from the input of over 300 participants who attended the scoping meetings and from the nearly 20,000 written comments received. The summary list of all issues and actions identified during this process and a compilation of the entire original comments are posted on the Sanctuary website <http://stellwagen.nos.noaa.gov> for independent evaluation.

In the interest of fairly reflecting the comments received during scoping, it is important to note that certain topics were controversial with different points of view raised. In all cases with divergent views, it was necessary to state generalities rather than specifics. Condensing individual comments was undertaken to capture the range of sentiment expressed, while rendering a manageable number of categories for evaluation and deliberation.

The topics and issues identified are presented elsewhere in this newsletter where space affords. As this edition of Banknotes goes to press, the Sanctuary Advisory Council and the National Marine Sanctuary Program have finished reviewing the findings. Completion of this phase of Management Plan Review leads to the formation of working groups and the development of action plans. The latter eventually will be incorporated into the Draft Management Plan. Please visit our website to monitor progress as this very important work proceeds.

Craig D. MacDonald



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- ☐ Stellwagen Soundings Newsletter
- ☐ E-mail Notices
- ☐ State of the Sanctuary Report

If you are interested in a FREE Stellwagen Banknotes or Sanctuary Soundings newsletter subscription or other Sanctuary publications, please provide the following information and send to: **SBNMS, 175 Edward Foster Road, Scituate, MA 02066** or fax to: **1-781-545-8036**

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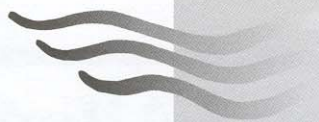
Getting Involved

Volunteers

The Gerry E. Studds Stellwagen Bank National Marine Sanctuary welcomes your interest in our programs. At this time, we're initiating plans to start up a volunteer project that would provide assistance to our education, research and administrative programs. If you are interested in helping us organize this effort, please let us know by contacting our Education Coordinator, Anne Smrcina (anne.smrcina@noaa.gov), or by calling the Sanctuary office at 1-781-545-8026.

Donations

Tax deductible monetary donations can be made to the Stellwagen Bank National Marine Sanctuary's education fund at the National Marine Sanctuary Foundation, a non-profit organization dedicated to supporting the efforts of the 13 Sanctuaries around the nation. Donations made out to the Foundation (SBNMS Fund) can be sent to the Sanctuary office in Scituate.



Shipwrecks

Submerged Cultural Resources

Continued from page 1

tions prevented rescuers from learning of the crash, and the lifeboat drifted for four days until a fishing schooner from Duxbury spotted it many miles off Cape Cod.

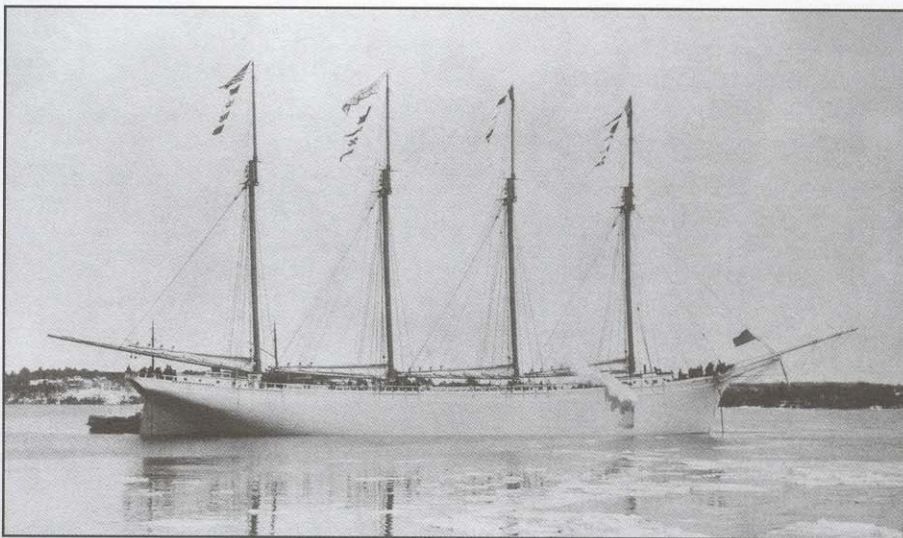
The Palmer was the largest four-masted schooner ever built (274.5 ft.) while the Crary was a similarly sized five-masted vessel (267 ft). Both vessels were colliers (coal carriers), which plied regular routes between the coal-producing region in the mid-Atlantic and the energy-dependent northeast. In 1902, a record December cold snap and a series of coastal storms created a serious energy crisis in the Boston area. The Palmer, based out of Portland, Maine, and the Crary out of New York City were two of a fleet of vessels that were bringing coal to the beleaguered city.

Rough sea conditions off the northeast coast had caused major delivery delays. Much of the coal fleet was standing by off Martha's Vineyard awaiting better sea conditions that would allow safer passage through Nantucket Shoals and around Cape Cod - this before the creation of the Cape Cod Canal. Coal distributors in Boston and surrounding communities raised prices for the scanty supplies.

By the time the Palmer and Crary rounded the Cape and started for Boston, numerous ships and barges had made their way into Boston, alleviating some of the coal shortage. The large number of vessels waiting to offload their cargoes may have been a factor in the delay in noting the disappearance of the two schooners. It was not until December 20 (three days after they sank) that questions of the ships' location appeared in the papers.

John Fish and Arnold Carr of American Underwater Search and Survey (AUSS) originally located the Palmer-Crary shipwrecks over 13 years ago in their search for the steamship Portland. Despite poor images, they were able to determine that this was not the site of the famed steamer, but instead, the two ill-fated colliers. They subsequently suspended operations at this position but kept a record of the find. As with the Portland wreck, the AUSS team generously provided the wreck coordinates to the Stellwagen Bank National Marine Sanctuary and National Undersea Research Center at the University of Connecticut (NURC) when the shipwreck survey project was being planned. A series of summer and fall 2002 research cruises were used to image both wreck sites. (See Banknotes, vol. 1, no. 1 for more information on the Portland Project.)

The location of the wrecks within the sanctuary's boundaries provides protection unavailable in other federal and international waters off Massachusetts. Sanctuary regulations prohibit moving, removing or injuring, or any attempt to move, remove or injure any submerged cultural or historical resources, including artifacts and pieces from shipwrecks. Anyone violating this regulation is subject to civil penalties.



Frank A. Palmer

Photo courtesy of Maine Maritime Museum

The small cloud of steam visible on the starboard side of the Palmer in this historic photo is from the "donkey engine." Although the schooners were awkward to handle, the steam-powered engines provided power for hoisting the sails, running the windlass, capstan and pumps, and handling other heavy gear. With this early automation, the large coasters were able to get by with relatively small crews (generally one or two mates, steward, engineer for the donkey engine, captain, and a modest number of seamen based on the number of masts, generally two per "stick"). This was illustrated in the case of the Palmer and Crary - the two ships combined had only 21 officers and crew.

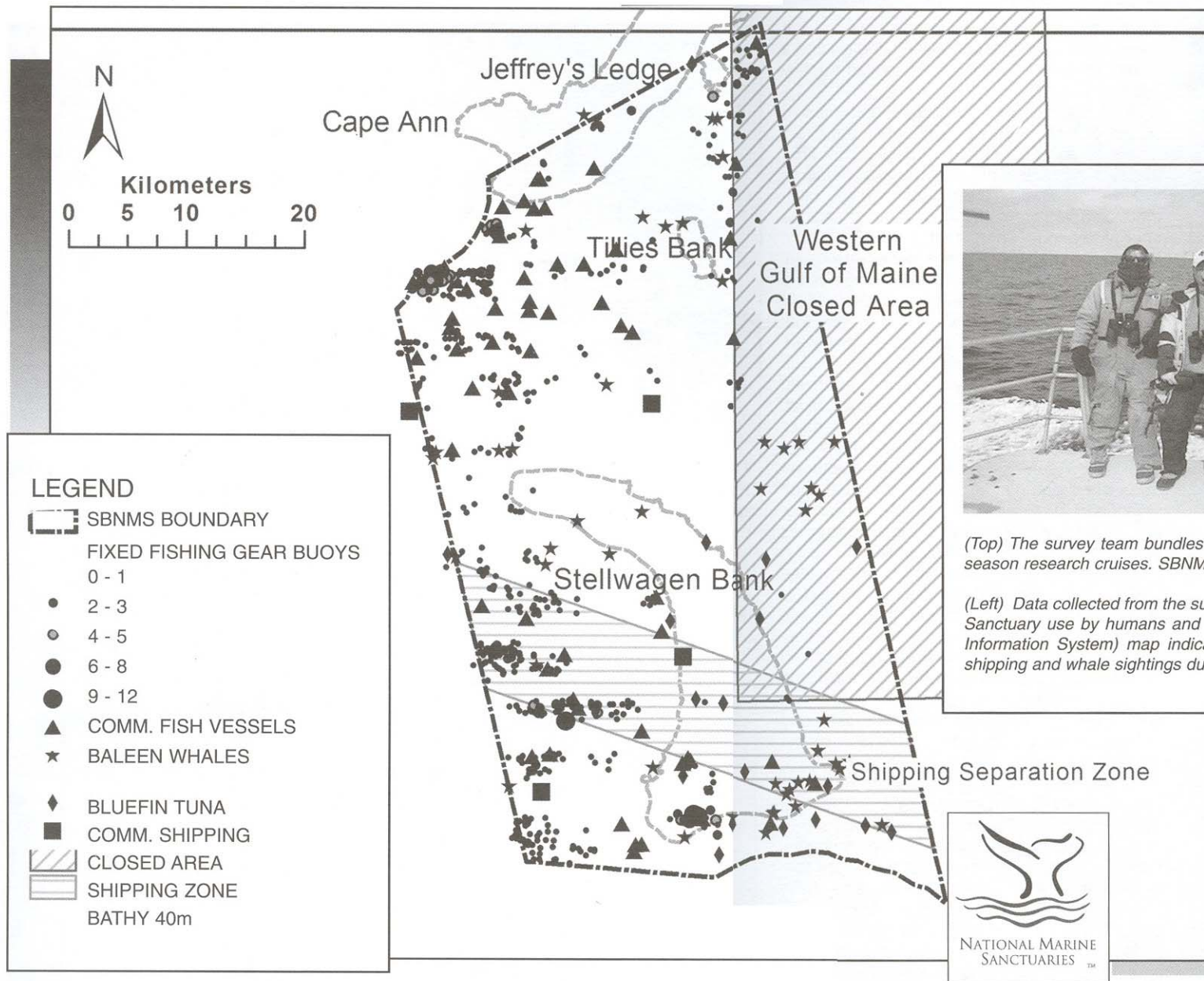


Louise B. Crary

Photo courtesy of Maine Maritime Museum

The Crary and other large, multi-masted schooners were designed to compete against the barge lines and carry large, heavy cargoes. The ships were long and narrow, which provided for speed when there was a good wind but were unwieldy in other conditions. The bows were moderately sharp, and the floors were long and flat. These characteristics may have played a role in the crash and quick sinking of the ships on the night of Dec. 17, 1902.

Surveys Allow Staff to Analyze Sanctuary Use



Most stores take periodic inventory of their stock. They might want to know what items are on the shelves, where they are located, or the condition of the items. For a large business, the task of taking inventory can often be quite daunting. Now imagine a store that covers an area of

hundreds of square miles and has as many as 60 floors for holding its "merchandise." Imagine further that some of the items in the store do not sit quietly on the shelves, but move freely among the floors and various departments! Sometimes the items leave the store entirely, only to return weeks, months or years later. How could the manager of such a store ever know what was inside or determine the health of his or her enterprise?

This imaginative scenario depicts some of the challenges underlying management of the Stellwagen Bank National Marine Sanctuary (SBNMS). The SBNMS encompasses 638 square nautical miles with depths ranging to over 600 feet.

To manage such an area and fulfill the mandate of resource protection, sanctuary staff need to know what is in the sanctuary, where it is located, and what factors might be increasing risk or causing harm. SBNMS also needs to know trends within the sanctuary - are the various marine mammal species or human uses increasing or decreasing and at what levels should managers become alarmed?

To help meet this challenge, SBNMS researchers conducted monthly surveys or "inventories" from July 2001 through

September 2002. According to Dr. David Wiley, SBNMS marine mammal specialist and survey project leader, the goal of these surveys was to "determine the spatial and temporal densities of marine mammals and human activities within the sanctuary."

The shipboard surveys were conducted using line transect methodology - a technique that allowed scientists to document the identity and location of the sanctuary's impressive array of marine mammals and human user groups. Each month, Wiley and his team surveyed along and recorded data from 15 predetermined tracklines totaling 262 nautical miles in length. At a survey speed of about 12 knots, three days were required to complete each month's survey.

Over the course of the surveys, the team covered almost 3,000 nautical miles of trackline and sighted hundreds of commercial fishing vessels, thousands of surface buoys marking the location of underwater fishing nets and lobster traps, and thousands of whales, dolphins, porpoises, and other types of marine life (e.g., basking sharks, ocean sunfish, bluefin tuna). During the process the researchers encountered snow squalls, dense fog and sub-freezing temperatures. They are now busy analyzing the data for new insights into how these animals and humans use the sanctuary, and their potential to interact with one another and other sanctuary resources.

The mandate of the National Marine Sanctuary Program is to manage for the protection of sanctuary resources, while allowing compatible human activities to occur. This complex goal requires substantial information. The use of standardized shipboard surveys is just one of the tools employed by sanctuary scientists and their collaborators to fulfill this mission.

Stay tuned for future newsletters that describe other ways scientists monitor the activities within, and health of, the Stellwagen Bank National Marine Sanctuary.



(Top) The survey team bundles up for frigid weather during off-season research cruises. SBNMS photo by Craig MacDonald.

(Left) Data collected from the surveys show the level and type of Sanctuary use by humans and animals. The GIS (Geographic Information System) map indicates fishing gear, fishing boats, shipping and whale sightings during one month of survey tracks.



In Memoriam

Jacquelyn "Jackie" N. Ciano, a respected marine mammalogist, originally from Arlington and more recently from Wellfleet, Mass., and three other members of a North Atlantic right whale aerial survey team, were lost when their twin-engine plane went down in the Atlantic Ocean off the coast of Florida on January 26. "Jackie was a talented and dedicated individual who will be sorely missed by the whale research community. Her work, both here in the Gulf of Maine and off Florida, had been providing valuable data in the effort to protect the highly endangered right whales," said SBNMS marine mammal specialist David Wiley. In addition to Jackie, the other members of the research team were conservation biologist Emily Argo of St. Petersburg, Florida; marine mammal observer Michael Newcomer of Los Altos, Calif., and pilot Tom Hinds of Fernandina Beach, Florida. The cause of the accident is still under investigation.

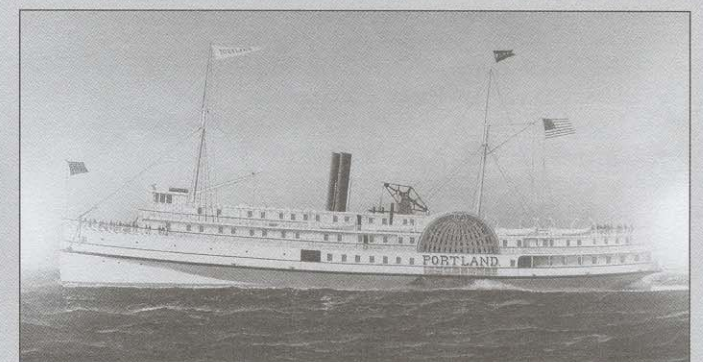
Portland Update

On November 26, 2002, the Stellwagen Bank Sanctuary released the latest images of the wreck of the Portland. The release date was scheduled to coincide with the 104th anniversary of the sinking of the side paddle wheel steamship and the loss of all estimated 192 aboard. The new side scan images clearly show the distinctive diamond-shaped walking beam (used to provide power to the ship's paddle wheels) just behind the side-by-side smokestacks (see example at right).

The images were taken during a one-day research cruise to the shipwreck site in October. Klein Sonar Associates, a Salem, N.H.-based company provided a state-of-the-art Model 5000 side scan unit and ship time for this mission. Visit our web site to see other images.



SBNMS image



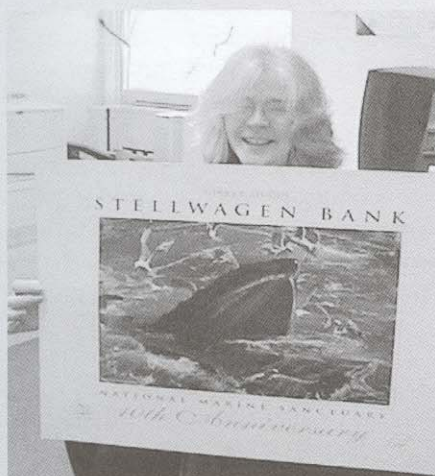
Courtesy of Maine Historical Society

Currents

News and Events From the Sanctuary

New Poster Available

The National Marine Sanctuary Foundation working with the National Marine Sanctuary office has produced a 10th Anniversary poster for the Stellwagen Bank Sanctuary. The 19" x 25" full color poster showcases National Geographic Magazine photographer Flip Nicklin's photo of a feeding humpback whale in sanctuary waters. Individual copies of the poster are available at a cost of \$10 each from the National Marine Sanctuary Foundation (price includes shipping and handling). Visit the Foundation's web site at www.nmsfocean.org to download a copy of the order form for the Stellwagen Bank poster.



Sandi Dentino, SBNMS administrative specialist, holds a copy of the new poster.

New Marine Weather Radio Transmitter Placed in Gloucester

NOAA's Weather Service has established its first all-marine weather radio transmitter for the East Coast in Gloucester (several have already been placed along the California coast). The transmitter covers a radius of some 40 miles, which includes Boston, Plymouth, Provincetown and all of the Stellwagen Bank National Marine Sanctuary. The transmitter broadcasts at 162.425 MHz; the signal can be picked up with a 7-channel weather radio or scanner. Messages will include hourly marine weather roundups; buoy observations including wave height, period in seconds, and wind speed; coastal and offshore marine forecasts including Georges Bank; right whale alerts and fishing notices from NOAA's Fisheries Service; and other special warnings or statements. The transmitter became operational in February 2003.

MPA E-Mail Newsletter Available

NOAA's National Marine Protected Areas Center offers a new on-line newsletter, "Connections," for anyone interested in the issues concerning MPAs. The mission of the Center is to facilitate the effective use of science, technology, training, and information in the planning, management, and evaluation of the nation's system of marine protected areas. A recent issue included articles on "Clarifying Misconceptions About MPAs" and "A Tool to Assess MPA Effectiveness" along with a calendar of MPA-related conferences and meetings. To subscribe to the newsletter, send an e-mail message to requests@willamette.nos.noaa.gov with: subscribe mpacenterconnection in the subject line. Do not include any other information in the body of the message.

Sanctuary Pier Damaged in Storms

A series of nor'easters early in the winter severely damaged a wave break on the outer portion of the sanctuary's pier in Scituate Harbor. The wave break, a vertical wall of thick timbers bolted together, deflects waves to protect boats tied up on the other side. At press time a contract was about to be let to commence construction. The sanctuary hopes to have the pier repairs finished by the start of the '03 field season in late Spring.

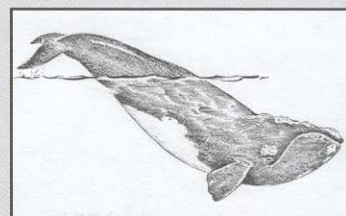


A section of the wave break torn from the SBNMS pier now sits on the beach in front of the boathouse.

Big Changes to Stellwagen Bank Sanctuary Headquarters

Visitors to the sanctuary's headquarters in Scituate will have to navigate a maze of carpenters' sawhorses, temporary walls, hard hat areas and construction dumpsters over the next few months as the building undergoes renovation. Through the government's competitive bidding process, a contract was awarded to A.W. Paine of Marshfield, Mass. Highlights of the renovation include: temperature control by a geothermal heat pump system substituting for natural gas; new insulated windows, carpeting, interior paint and lighting fixtures; a new conference room in the current galley; a handicapped accessible bathroom on the first floor and ramp to the porch and front door; a dive locker in the basement; and a library on the second floor. Work is progressing in stages, with the basement, first floor renovations and external work in phase 1 (February-April) and the second and third floors later in the process (May-August). By August, plans call for an attractive, energy efficient and handicapped accessible office.

Researchers Observe 16 Right Whale Calves



Cetacean researchers have been pleasantly surprised with the observation of 16 right whale calves to date this year (additional individuals may be added to the list as late births are recorded and previously unsighted whales appear in feeding grounds). The newborns and their mothers were spotted off the Georgia and Florida coasts, the only known breeding ground for these critically endangered mammals. Although a smaller number than the past two years (22 and 31 respectively in 2000/1 and 2001/2), this year's number continues the mini-baby boom. During the late 1990s, calving rates had dropped into the single numbers. Scientists estimate that there are only 300-350 northern right whales left in the North Atlantic. Entanglements with fishing gear and boat strikes present constant threats to these massive, but slow-moving animals.

National Sanctuaries Program Publishes Annual Report

The National Marine Sanctuaries Program has produced "State of the Sanctuaries," the program's annual report. The attractive 38-page publication reviews achievements from each of the 13 sanctuaries and describes activities planned for the new year. To obtain a free copy of this report, call 301-713-3125 x 0 or write to the NMSP, 1305 East-West Highway, Silver Spring, MD 20910, or download a pdf version from the web at <http://sanctuaries.noaa.gov>.

Report Available Soon From Pew Commission

The independent Pew Oceans Commission, which has been documenting the status of nearshore and ocean waters, will release its call for action in late March or early April. To learn more about the Pew Oceans Commission or to request a copy of the report when it is issued, log onto its website at www.pewoceans.org.

MPA Report Available

The Ocean Conservancy has released "Marine and Coastal Protected Areas in the U.S. Gulf of Maine Region," a 96-page full color report that assesses existing coastal and marine protected areas using GIS data. Over 300 protected areas on state and federal coastal lands and in the waters off Massachusetts, Maine, and New Hampshire are examined, focusing on year-round areas established by state or federal law, that provide lasting protection to the coastal and marine environment above and beyond other laws and regulations. The areas, including the Stellwagen Bank Sanctuary, are described and mapped, then analyzed for their management objectives, specific protections afforded, and effectiveness in long-term conservation of marine biodiversity. For a free copy of the report, please contact SBNMS SAC Member Susan Farady at 207-879-5444, susan.farady@verizon.net or Cheri Recchia at 202-429-5609, recchia@oceanconservancy.org. The report can also be accessed at <http://www.oceanconservancy.org/dynamic/aboutUs/publications/publications.htm>.

Summary of Issues Raised in Management Plan Review Scoping Sessions and Public Comment Period

Ecosystem and Habitat Protection

- 1.A Alteration of Sanctuary Habitat by Human Activity
- 1.B More Detailed Site Characterization and Assessment of Resource Status
- 1.C Need for Comprehensive Ecosystem-based Management
- 1.D Need for Compatibility Determinations

Impacts of Human Activities on Marine Mammals

- 2.A Need for More Information on Habits and Habitat Use of SBNMS Whales and Other Marine Mammals
- 2.B Vessel Strikes / Impacts on Marine Mammals
- 2.C Whale Harassment and Behavioral Disturbance
- 2.D Entanglement of Whales and Other Marine Mammals in Fishing Gear and Marine Debris
- 2.E Impacts of Vessel Noise and Other Acoustics on Marine Mammals
- 2.F Whalewatching Guidelines Need to Become Regulations to Avoid Injury to Marine Mammals

Condition of Water Quality and Contaminant Transport

- 3.A No Comprehensive Water Quality Plan and a Lack of Baseline Water Quality Data Including Toxins and Contaminants
- 3.B Appropriateness of Waste Water Discharge by Vessels in SBNMS
- 3.C Impacts of Municipal Sewage Outfalls and Other Waste Streams

Lack of Public Awareness

- 4.A Low name recognition
- 4.B Better Information Dissemination to the Public and User Groups Through Leveraged Partnerships
- 4.C Public Education Through Curriculum Development

Protection of Submerged Cultural Resources (SCRs)

- 5.A Need for Inventory and Assessment and Comprehensive Characterization of SCRs
- 5.B No Plan for SCR Management and Protection
- 5.C Lack of Public Awareness / Interpretation of SCRs

Effective Enforcement

- 6.A Need Greater Compliance with Regulations
- 6.B New Vessel Types / Activities Require Monitoring

Adequacy of Administrative Capacity

- 7.A Base Level Staffing and Program Support
- 7.B Infrastructure Development and Maintenance

Sanctuary Authority and Cross-Jurisdictional Interaction

- 8.A Clarification of Overlapping Agency Responsibilities
- 8.B Inter-Agency Coordination and Effectiveness

CALENDAR

March 2003 thru June 2003

March 2003

- March 22-28 Research cruise with WHOI on RV Oceanus to collect seafloor habitat images using SeaBED Autonomous Underwater Vehicle
March 27 Sanctuary Advisory Council Meeting, Woburn, MA

April 2003

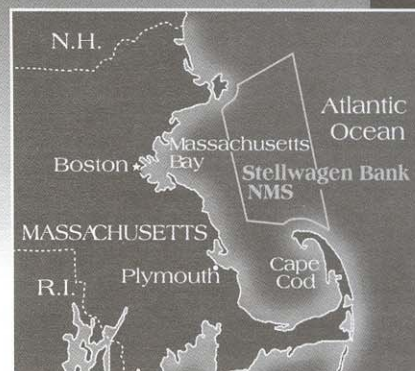
- April 15 The George Wright Society Biennial Meeting in San Diego (talk by Ben Haskell on "Inventorying and Protecting Historic Shipwrecks in the SBNMS")
April 22-23 Regional ROV Competition. at Cambridge Rindge and Latin school (exhibit and talk on "Shipwrecks, Habitats and ROVs in the Stellwagen Bank Sanctuary")
April 24 Environmental Policy Forum, Stanford University (talk by James Lindholm on "Ecological Effects of Fishing on the Implication for Design of Marine Reserves")

May 2003

- May 1 Sanctuary's Provincetown Exhibit opens for the season
May 3 Massachusetts Marine Educators 27th Annual Conference, Woods Hole (workshop by Anne Smrcina on "Hidden History: Shipwrecks in the Sanctuary")

June 2003

- June 8 11th Annual World Oceans Day (June 8-14 - Oceans Week on Capitol Hill)
June 16-20 Research cruise with NURC on RV Connecticut to study human impacts to seafloor as part of SHRMP (Seafloor Habitat Recovery Monitoring Program)



**Save This Date:
July 19th**

The 2nd Annual
Sanctuary Celebration in
Gloucester (in conjunction
with the Great
Annual Fish Count) will
be held July 19th at
Stage Fort Park.

Winter Milestones

Kate Van Dine was elected vice chair of the Northeast Right Whale Recovery Plan Implementation Team at the February meeting.

Ben Haskell and Matthew Lawrence (summer graduate student) presented "Submerged Cultural Resources Investigations in the Sanctuary" at the Society for Historical Archaeology annual conference this past Jan.

James Lindholm gave a talk entitled "Beneath the Blue: The Effects of Fishing on Seafloor Habitat" at the American Association for the Advancement of Science (AAAS) February meeting in Denver.

Craig MacDonald and James Lindholm were keynote speakers at this year's Marine Science High School Symposium at Massachusetts Maritime Academy.

Bob Michelson offered the Sanctuary's Fish ID workshop at the Annual Boston Sea Rovers Conference in March. Ben Haskell and SAC member Susan Farady also presented.

James Lindholm spoke on "Site Utilization and Movement of Atlantic Cod in Offshore Environments as Determined by Acoustic Telemetry," at the Cape Cod Natural History Conference in March.

Ben Haskell spoke at the Fishermen's Forum in Portland, Maine on "Two MPA Case Studies -- Tortugas Ecological Reserve and SBNMS" in Feb.

National Oceanic and Atmospheric Administration
National Ocean Service
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